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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,952	11/15/2001	Nobuyuki Takamori	70801-56710	5464

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EXAMINER	
ANGEBRANNDT, MARTIN J	
ART UNIT	**PAPER NUMBER**
1756	

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/002,952	TAKAMORI ET AL.	
	Examiner	Art Unit	
	Martin J Angebranndt	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Peri d for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *three* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *9/20/04 & 11/19/2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-7 and 9-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-7 and 9-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 September 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The examiner has read the response of the applicant and given it careful consideration. Responses to the arguments of the applicant are presented after the first rejection that they are directed to. On page 3 of the after final amendment, the applicant indicates "A copy of the IDS submission which included with the new patent application is included for consideration by the Examiner". This was not attached to the after final amendment, but appears to have been signed and returned with the final office action (IDS was submitted by the applicant on 02/05/2004). The corrections to drawings 7 and 11-13 are approved

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1,3-7 and 9-11 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Tajima et al. JP 2000-311381.

Tajima et al. JP 2000-311381 exemplifies optical recording media shown in figures 1,7 and 8, where the UV cured protective layers disclosed in tables 1 and 5. The example

corresponding to the embodiments of table 5 meets the limitations of the claims and use 0.5 mm polycarbonate as the substrate material [0057]. The data in the tables establishes this.

The examiner notes that the linear expansion coefficients and Young's modulus are relatively unimportant by themselves. As the desire to reduce warping of the media is the intended/desired result, the applicant might find including any limitations found in the specification with respect to the warpage or tilt into the claims to distinguish over less desirable media with high warpage/tilt. (see Inuoue et al. '493).

The applicant argues that the humidity expansion coefficient is not taught. The examiner holds that the humidity expansion coefficient is an inherent property of the material and that the protective layer of the prior art cited inherently meets this limiation. The examiner notes that even the comparative example in the instant specification (see figures 12) meets the claim limitations (6.25×10^{-5}). The examiner notes that the materials disclosed in the instant application Urethane, epoxy, polyester and polyether acrylates are disclosed as useful and meeting the material limitation of the claims in the instant specification on **page 9 at lines 16-10**. [0037] in prepub. The instant specification after that portion indicates that the protective film is preferably made of "a material containing a large amount of poorly hydrophobic component", (prepub at [0038]). If the urethane, epoxy, polyester or polyether portion of the acrylate is not this, then the applicant may have an issue with an incomplete disclosure of how to make/practice the invention. As the applicant has disclosed the humidity expansion coefficient of polycarbonate as 7×10^{-6}, the low warpage/curavature reported in the reference applied requires that the protective layer have a similar humidity expansion coefficient as if these values were different, then the optical recording medium would warp. The rejection stands.

The applicant argues that the no data is provided with respect to the humidity expansion coefficient and therefore the claims are not met. The examiner holds that this is a question of fact which can be resolved by a declaration by the applicant. **The examiner notes that applicants Nobuyuki TAKAMORI and Hideharu TAJIMA are listed as inventors on the reference at question. The applicants could swear out a declaration clearly stating that the media produced in the reference were tested and do not meet the limitations of instant claims with respect to the protective layer and should provide the data to support this.** The applicant argues that the water permeation degree is independent of the coefficient of expansion due to humidity. This is not correct. The stress which causes the tilt is due to penetration of the water (vapor) into the protective layer. If the water is not able to penetrate into the protective layer, then it will not undergo any expansion due to humidity. Therefore if the degree of water absorption is low, the coefficient of expansion due to humidity will also be low. The question at hand is does the protective layer absorb water at a slightly higher rate than the substrate. Based upon the data in the references, the examiner holds that this is the case. **The examiner notes that only urethane, epoxy, polyester and polyether acrylates are disclosed as useful and meeting the material limitation of the claims in the instant specification on page 9 at lines 16-10. [0037 in prepub] are described as useful. The applicant may wish to provide additional data to the record to indicate criticality in the urethane, epoxy, polyester and polyether acrylates used and clearly set forth for the record that not all members of the disclosed acrylate groups meet the limitations. It would also be helpful to prosecution and possible allowance, if the applicant provided more details concerning the specific compositions used by the applicant in the examples of the instant application including**

chemical composition and tradenames. This information would serve to reduce the issues at hand (and likely the number of rejections) and should be expected to move prosecution forward. The rejection stands.

5. Claims 1,3,4,6 and 10-11 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Murakami et al. '272.

Murakami et al. '272 teach optical recording media with substrates between 0.5 and 1.2 mm (28/63-65). The example disclosed in column 8 uses a polyurethane-acrylate UV curable resin with a thickness of 5 microns as the overcoating. (8/15-49). The tilt should be les than 10 mrad (21/1)

The applicant ignores the fact that these materials are taught as meeting these properties by the applicant in the instant specification ([0037] in the prepub) as well as the fact discussed in the specification, that the tilt is caused by the difference in expansion of the substrate and the protective layer as a function of humidity. (see figure 3 and [0050, 0054-0069]). If the warp is small then the difference in the expansion of the substrate and the protective layers as a function of humidity must be similar. The rejection stands and the examiner notes that the properties have to be met by the reference, if inherent, these do not have to be measured and disclosed, merely inferable.

The applicant correctly appreciates the examiner's position that urethane, epoxy, polyester and polyether acrylates are assumed to inherently meet the physical limitations recited in the claims. This is the problem with using physical properties, which are not often measured to characterize the invention at hand. . **The examiner notes that only urethane, epoxy, polyester and polyether acrylates are disclosed as useful and meeting the material limitation of the claims**

in the instant specification on page 9 at lines 16-10. [0037 in prepub] are described as useful. The applicant may wish to provide additional data to the record to indicate criticality in the urethane, epoxy, polyester and polyether acrylates used and clearly set forth for the record that not all members of the disclosed acrylate groups meet the limitations. It would also be helpful to prosecution and possible allowance, if the applicant provided more details concerning the specific compositions used by the applicant in the examples of the instant application including chemical composition and tradenames. This information would serve to reduce the issues at hand (and likely the number of rejections) and should be expected to move prosecution forward. The rejection stands.

6. Claims 1,3,4,6 and 10-11 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Inuoue et al. '493.

A CD with a resin substrate and a reflective metal film is coated with various UV curable optical recording media. The protective coatings in examples 1-121- through 2-3 use uethane acrylates. Tilt/warp is bad.

Urethane, epoxy, polyester and polyether acrylates are disclosed as useful and meeting the material limitation of the claims in the instant specification on **page 9 at lines 16-10**.

The rejection stands for the reasons above.

7. Claims 1,3,4,6 and 10-11 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Ohta et al. '884.

An optical recording medium with a resin substrate and a magneto-optical recording film is coated with a UV cured urethane-acrylate. (3/50-64)

Urethane, epoxy, polyester and polyether acrylates are disclosed as useful and meeting the material limitation of the claims in the instant specification on **page 9 at lines 16-10**.

The rejection stands for the reasons above.

8. Claims 1,3,4,6 and 10-11 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Yokoyama '222.

An optical recording medium with a resin substrate and a magneto-optical recording film is coated with a UV cured urethane-acrylate (example 1), and epoxy-acrylate (example 2).

Urethane, epoxy, polyester and polyether acrylates are disclosed as useful and meeting the material limitation of the claims in the instant specification on **page 9 at lines 16-10**.

The rejection stands for the reasons above.

9. Claims 1,3,4,6 and 10-11 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Yoshioka et al. '649.

An optical recording medium with a resin substrate and a phase change optical recording film is coated with a UV cured urethane-acrylate. (example 1)

Urethane, epoxy, polyester and polyether acrylates are disclosed as useful and meeting the material limitation of the claims in the instant specification on **page 9 at lines 16-10**.

The rejection stands for the reasons above.

10. Claims 1,3,4,6 and 10-11 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Tachibana et al. '709.

An optical recording medium with a resin substrate and a magneto-optical recording film is coated with a UV cured urethane-acrylate. (examples 6and 7) The warp is less than 10 microns over the diameter of the disk (table 1(col. 13/14))

Urethane, epoxy, polyester and polyether acrylates are disclosed as useful and meeting the material limitation of the claims in the instant specification on **page 9 at lines 16-10.**

The rejection stands for the reasons above.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin J Angebranndt whose telephone number is 571-272-1378. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9309.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Martin J Angebranndt
Primary Examiner
Art Unit 1756

01/04/2005